

NORTH AMERICAN SPECIES OF PARAPHROSYLUS
BECKER, A SUBGENUS OF APHROSYLUS
WALKER

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Dr. Theodore Becker, in his large work on North and South American Dolichopodidæ, published in 1921, page 127, establishes *Paraphrosylus* a new subgenus of *Aphrosylus* to receive the American species of that genus, separating them from the European, or typical forms, by several characters, the two most important of which are the presence of well-developed acrostichal bristles in the American species, and the supposed difference in the form of the face and front, but he seems to have been misled in the latter character by Dr. Wheeler's figure of the head of *prædator*, published in the Proceedings of the California Academy of Sciences, third series, Vol. 1, plate iv, fig. 4. This figure gives a wrong view of the face and front of our species; the face of *prædator*, and of all the rest of our species, is narrowed just below the antennæ, there being more or less of an emargination in the orbits of the eyes opposite the base of the antennæ, as in the European species; the front also widens as usual, being widest at the vertex. This leaves the presence of the acrostichal bristles as the only character of importance to separate the subgenus, these bristles being wholly wanting in the European forms; still it seems to me that this character is enough to justify our acceptance of the subgenus.

Three new species are described below. One, our largest form, was taken by Dr. Aldrich in Alaska, and the other two were taken by E. P. Van Duzee, in the Lower California region.

I am greatly indebted to Dr. Aldrich for the privilege of examining the material in the National Museum, which contains all three of Wheeler's species, as well as the new form from Alaska.

Table of Species

Males

1. Posterior cross-vein forming an obtuse angle with the basal portion of fourth vein, arista pubescent (California).....
.....*grassator* Wheeler

- Posterior cross-vein nearly at right angles to the fourth vein;
arista bare 2
2. Wings dark brown, with a conspicuous spot of darker color,
which is nearly square and extends from the cross-veins
towards the base of the wing (California).....*direptor*, Wheeler
Wings without such a spot, at most with a little clouding along
the cross-vein 3
3. Outer hypopygial appendages yellow (Gulf of California).....
.....*tenuipes* new species
Outer hypopygial appendages blackish..... 4
4. Fore femora with short, blunt, erect spines below on basal half
(California; British Columbia)*prædator* Wheeler
Anterior femora with rather long hair below..... 5
5. Wings blackish; third and fourth veins slightly divergent to-
wards their tips; middle femora with two rows of slender
bristles below (Alaska).....*nigripennis* new species
Wings more brownish; third and fourth veins considerably con-
vergent towards their tips; middle femora with one row of
longer hairs on lower posterior edge (Gulf of California).....
.....*fumipennis* new species

Females

1. Posterior cross-vein forming an obtuse angle with the basal
part of fourth vein.....*grassator* Wheeler
Posterior cross-vein at nearly right angles to the fourth vein..... 2
2. Wings with a nearly square spot of darker color, extending
from the cross-vein towards the base of the wing.....
.....*direptor* Wheeler
Wings without such a spot, at most with a little clouding along
the cross-vein 3
3. Third vein bent backward, convergent with fourth towards
their tips.....*fumipennis* new species
Third and fourth veins nearly parallel or slightly divergent
towards their tips..... 4
4. Large species, 4.5-5 mm.; wings blackish.....*nigripennis* new species
Smaller species, 2.5-3 mm.; wings more brownish.....
.....*prædator* Wheeler

Paraphrosylus prædator, Wheeler, has the joints of fore tarsi as 25-14-12-8-10; of middle ones as 38-17-11-7-9; the joints of hind tarsi are as 34-25-14-8-11. The length of the last section of fifth vein of the wing is 19, of cross-vein 17/50 of a millimeter.

Paraphrosylus direptor, Wheeler, has the joints of the fore tarsi as 20-10-8-7-10; of middle ones as 35-15-9-6-12; and of

the posterior as 34-22-11-7-11. The length of the last section of the fifth vein is 22, of the cross-vein 19/50 of a millimeter.

Both these species have the third and fourth veins nearly parallel beyond the cross-vein, or a very little divergent, so they are slightly farther apart at tip than at the cross-vein; in both the third and fourth veins are a little bent backward at their tips.

1. *Paraphrosylus nigripennis* Van Duzee,
new species

Male. Length 3.5-4 mm., of wing 4.6 mm. Face wide, black, with only a little gray pollen. Palpi and proboscis velvety black, the former with a little grayish pollen on the extreme edge and numerous stiff black hairs. Antennæ black; third joint nearly twice as long as wide, tapering to a point; it has, besides the usual minute hairs, a few short spines; arista apical, longer than the antennæ, slender, bare, except the basal joint, which has a few minute hairs and is a little thickened. Eyes not, or but slightly, emarginate opposite the antennæ. Front widest at the vertex, opaque black. Orbital cilia black; lower part of the head with rather long black hairs, one pair near the proboscis longer than the others.

Thorax dark green; dorsum dulled with blackish-brown pollen and with a darker median line; acrostichal bristles rather small and scattering; four quite large dorsocentral bristles in each row; three humeral bristles, one post humeral, one præsutural, one notopleural, one supraalar and four scutellar bristles; pleura without bristles, except six hair-like ones above fore coxa, its pollen grayish. Abdomen dark green with blue reflections and brown pollen, its hairs black. Hypopygium large for the genus, basal portion with numerous small black hairs; outer appendages long, black, bent upward at nearly a right angle a little beyond their middle and with numerous stiff, spine-like hairs; at their base are two somewhat round, large, yellowish-brown lamellæ, with a few small hairs on the edge; inner appendages short, black, with a few minute white hairs at tip.

Coxæ, femora and tibiæ black; fore and middle coxæ with long, black hair on the anterior surface, but without bristles at tip. Fore femora thickened, with rather long, black hair, especially on lower posterior surface; middle femora with two rows of slender bristles on lower surface; hind femora bowed outward, the hairs on their anterior surface quite long. Fore and middle tibiæ each with one small, slender bristle not far from base; posterior ones with several small bristles on upper surface, these bristles not much more than hairs, about twice as long as those on the tibiæ. Tarsi plain; fifth joint a very little widened, pulvilli rather large, yellowish. Joints of fore tarsi as 36-15-12-8-14; those of middle ones as 47-19-13-8-11;

of hind tarsi as 50-34-16-10-15. Calypters black, yellow at base, with black cilia. Halteres wholly yellow.

Wings wholly and uniformly quite black; the cross-vein bordered with a slightly darker shade; third and fourth veins nearly straight, slightly wider apart at tips than at the cross-vein.

Female. Length, 4-4.5 mm.; of wing, 5-5.5 mm. They agree with the male in color and in the wing venation; the face is a little wider and has a greenish reflection; the third antennal joint is somewhat shorter and the middle femora are without bristles below. Ovipositor with several blunt, upturned spines on upper edge, and below these a pair of short lamellæ, rounded apically and with two hairs at tip.

Described from three males and five females, taken at Seward, Alaska, July 26, 1921, by J. M. Aldrich.

Type, male, in the United States National Museum.

2. *Paraphrosylus fumipennis* Van Duzee, new species

Male. Length, 2.5-3 mm.; of wing, 3 mm. Face black with thin, white pollen, moderately wide. Palpi black with stiff black hairs. Proboscis dull black. Antennæ black; third joint a little longer than wide, pointed at tip; besides the usual little hairs with several small spines; arista apical, slender, bare, except on the basal joint which is a little thickened, longer than the antennæ. Eyes slightly emarginate opposite the antennæ. Front a little green, dull, widest at the vertex. Orbital cilia black; lower part of the head with a few small black hairs.

Thorax blackish with slight purple reflections, covered with brown pollen; acrostichal bristles in an irregular row, conspicuous; four large dorsocentrals on each side; two humeral, one post-humeral, one præsutural, one intraalar, and four scutellar bristles; pleuræ with a pair of bristles placed close together a little below and in front of the halteres and two small slender bristles above the fore coxæ. Abdomen but little depressed, green with black hairs and white pollen. Hypopygium black with pale hairs; its lamellæ brown or black, short, rather slender, nearly straight, fringed with hairs.

Coxæ, femora, tibiæ and tarsi black. Fore coxæ with a few small black hairs, without bristles at tip. Fore femora thickened on basal portion, tapering to their tips, with a row of hairs below which scarcely reach the tip. All femora and tibiæ without bristles, except one hair-like one on middle tibiæ near the base and several similar ones on hind tibiæ; these are scarcely more than hairs, and are about twice as long as the rest on the tibia; middle femora with a row of longer hairs on lower posterior edge. Last joint of all tarsi slightly flattened and widened. Joints of fore tarsi as 28-18-12-8-9; of middle ones as 37-20-12-9-9; those of hind tarsi are as 33-25-13-

9-9. Calypters yellow with a brown border and black cilia. Halteres yellow.

Wings grayish, without spots; third vein bent backward, approaching fourth at tip; last section of fifth vein about one and a half times as long as the cross-vein.

Female. Almost like the male except that the face is wider, more brown, and the eyes are not emarginate.

Described from eleven males and nine females, taken on San Esteban Island, Gulf of California, April 20, 1921, and Isla Partida, Gulf of California, April 22, 1921, by E. P. Van Duzee.

Type, male, No. 1590, and allotype, female, No. 1591, Mus. Calif. Acad. Sci., collected by E. P. Van Duzee, April 20, 1921, on San Esteban Island, Gulf of California.

3. *Paraphrosylus tenuipes* Van Duzee, new species

Male. Length, 2.2 mm.; of wing, 2.5 mm. Face narrow, covered with white pollen. Palpi black with a little brown pollen and stiff black hairs. Proboscis shining black, dulled around the edge with brown pollen. Front black, widest at the vertex. Antennæ black; third joint moderately long, pointed at tip, with the usual minute hairs and several little spines; arista apical, slender, longer than the antenna, bare except at base. Eyes emarginate opposite the antennæ. Orbital cilia black.

Thorax greenish; dorsum dulled with brown pollen; the acrostichal bristles rather large, appearing to be in a single row, four pairs of dorsocentrals, one humeral, one post-humeral, one notopleural, and one intraalar bristle; also two quite conspicuous bristles placed close together on the pleuræ below and in front of the halteres, and three slender bristles above the fore coxæ. Abdomen depressed, green with black hairs and white pollen on the sides. Hypopygium yellowish brown, almost as long as the sixth abdominal segment, with stiff hairs on the upper and posterior surfaces; its lamellæ rather slender, yellow, about as long as the hypopygium, nearly straight, projecting downward in the type, fringed with hairs.

Coxæ, femora, tibiæ, and tarsi brown; fore coxæ with a few minute hairs on anterior surface, without bristles at tip. Fore femora thickened on basal half, abruptly narrowed below near the middle, with a row of rather long hairs on basal half below. All femora and tibiæ without bristles, their hair rather long. Fifth joint of all tarsi and third and fourth joints of middle ones, slightly widened. Joints of fore tarsi as 26-14-12-8-7; of middle pair as 36-19-18-11-13; of posterior pair as 31-25-13-10-10. Most of the tarsal joints, especially those near the tip, appear a little bent; this is caused by their being a little thinned in the middle or before the tip.

Halteres yellow. Wings grayish, without spots on the veins; last section of fifth vein about one and a half times as long as the cross-vein.

Type, male, No. 1592, Mus. Calif. Acad. Sci., collected by E. P. Van Duzee, April 20, 1921, on San Esteban Island, Gulf of California. Described from the unique type.

Among the Coleoptera which have recently established themselves in California are the following:

Carabus nemoralis Mull. A common European species, which was first found in Golden Gate Park, San Francisco, about five years ago, and which is now well established there, was probably introduced with plants imported from the Eastern Atlantic States, where it has been well established here and there for many years.

Sphæridium scarabæoides Linn. A common European dung-feeding Hydrophilid. This was introduced into Eastern North America many years ago, appeared in the Northern Pacific States but a few years ago, and within the last two years has been found in a number of widely distributed places in Northern and Central California.

Aphodius fimetarius Linn. A common European dung beetle; established in Eastern North America for a long period, in Washington and Oregon for at least twenty-five years, yet only reported last year in Northern California.

Cryptorhynchus lapathi Linn. A destructive European willow and poplar boring weevil. This last spring it was found in small numbers by Mr. F. J. Spruyt infesting young poplars in the Maclaren nurseries in San Mateo County. It is hoped that this species will soon be eradicated—E. C. Van Dyke.